Comments

L-0055/021

It was quite apparent that for an Environmental Impact Statement, there was lacking an ecological evaluation. This should be a major component that includes endangered and threatened species. Performing culturally surveys prior to construction is not mitigation. Most of the list of mitigated resources in not "mitigation" based on completion or implementation of projects but represent project management elements that mitigate project challenges. The impact of this project on cultural resources is devastating and irreversible.

The issues of risk associated with human health are alarming however very little is truly understood about the long term impacts of radioactive pollution on ecological resources. Aside from a paucity of ecological data that is limited to the geographic scope of the proposed facility ecological risk issues are another glaring uncertainty in the analysis.

Response

Biological and ecological resources (vegetation, wildlife, aquatic ecology, and threatened and endangered species) potentially impacted by the proposed actions are assessed in Volume II Appendix I and summarized in Volume I Section 4.6. Wildlife and ecological resource impacts are summarized in Volume I Section 5.5.

DOE manages cultural, archeological, ecological, biological, and natural resources under a series of area and resource management and mitigation plans. See Volume I Section 5.18.8 for a list of these plans. Resource and resource impacts are monitored routinely and as unique events and activities occur.

Potential cultural resource impacts are discussed in in Volume I Section 5.7. Mitigation measures to avoid losses of cultural resources that may be found during construction are discussed in Volume I Section 5.18.2.

Comments

L-0050/007

Page 4.74, Microbiotic Crust. WDFW appreciates the additional information on the potential impacts to microbiotic crust from the proposed actions. DOE should, to the extent possible, research microbiotic crust restoration, since it plays an important role in shrub steppe ecosystem functioning and in the success of mitigation projects at the Hanford site.

Response

DOE manages Hanford biological and ecological resources in accordance with the Biological Resource Management Plan (BRMaP; DOE-RL 2001) and the Biological Resource Mitigation Strategy (BRMiS; DOE-RL 2003).

Comments

L-0061/005

Section 7 of the Endangered Species Act (Act) of 1973, as amended, requires Federal Agencies to consult with the U.S. Fish and Wildlife Service (Service) if their actions may affect a federally listed threatened or endangered species. Section 9 of the Act prohibits the "take" (e.g., harm, harassment, pursue, injure, kill) of federally listed wildlife species. Take can only be permitted pursuant to the pertinent language and provisions in Section 7 and Section 10(a) or through a special rule under Section 4(d) of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to listed species prior to a written request for formal request for consultation.

For this project, the species list that you include is accurate; however, the Federal action agency under section 7(a)(2) of the Act is required to determine if the project will have no affect or may affect listed species. The DEIS contains a general description of endangered species in section 4.6.4 of the Affected Environment discussion, but there is no effect analysis provided. We [United States Department of the Interior] suggest that you complete an effect analysis to be in compliance with the Act.

Response

Presence alone of threatened or endangered species or critical habitat does not necessitate formal consultation under the Endangered Species Act. The U.S Fish and Wildlife Service (FWS) letter of April 23, 2002, (see Volume II Appendix I) states that "...if a listed species is likely to be affected by the project, the involved Federal agency should request Section 7 consultation...." According to the FWS Endangered Species Consultation Handbook, formal consultation is necessary 1) after the action agency determines that the proposed action may affect listed species or critical habitat, or 2) National Marine Fisheries Service (NMFS) or FWS does not concur with the action agency's finding that the proposed action is not likely to adversely affect the listed species or critical habitat. There are no threatened or endangered species or critical habitat in any of the terrestrial habitats to be disturbed under any of the alternatives in this HSW EIS (see Volume II Appendix I). Thus, because no threatened or endangered species or critical habitat are likely to be adversely affected, there is no basis for initiating formal consultation with either NMFS or FWS.

The ecological impact analysis contained in the HSW EIS is consistent with the requirements of NEPA. It is also consistent with the methods, characteristics, and controls associated with a composite analysis as described by the Columbia River Comprehensive Impact Assessment (CRCIA) team. The analysis modules included in the System Assessment Capability (SAC) parallel those identified by CRCIA and were developed through work group meetings that included regulator and stakeholder participation. Several key modules were adopted directly from the CRCIA including the module used to calculate human health impacts (the HUMAN code) and the module used to calculate impacts to ecological species (the ECEM code).

Volume II Appendix I provides information about potential impacts to terrestrial and aquatic ecological resources that may result from implementation of HSW EIS alternatives. Potential impacts to terrestrial resources were evaluated in the near term (i.e., during waste management operations and under current conditions). Potential impacts would result primarily from surface disturbances associated with excavation and disposal activities. Potential impacts to Columbia River riparian and aquatic resources could occur in the long term, i.e., up to 10,000 years following the conclusion of waste management operations. These would be primarily the result of the eventual migration of radionuclides and other hazardous chemicals through the vadose zone to groundwater and on to the Columbia River. Biological and ecological resources (vegetation, wildlife, aquatic ecology, and threatened and endangered species) potentially impacted by the proposed actions are assessed in Volume II Appendix I and summarized in Volume I Section 4.6. Wildlife and ecological resource impacts are summarized in Volume I Section 5.5.

DOE manages Hanford biological and ecological resources in accordance with the Biological Resource Management Plan (BRMaP; DOE-RL 2001) and the Biological Resource Mitigation Strategy (BRMiS; DOE-

RL 2003). See Volume I Section 5.18.8 for discussion of resource management and impact mitigation plans.

Comments

L-0044/031

CRD, p. 3.89 (Re: Comment #68) Although USDOE concludes that the adverse impact to wildlife from noise (due to blasting operations) would be negligible, it is difficult to evaluate effects from this stressor, as effects may be subtle and indirect.

Response

DOE believes the analysis contained in the EIS is consistent with the requirements of NEPA. Ecological impacts are presented in Volume I Section 5.5 and Volume II Appendix I.

Comments

E-0047/009

DOE has failed to gather the baseline data necessary to understand the existing effects on ecological receptors and systems from past and continuing contamination at Hanford. NEPA in some instances requires the collection of original data and information where such information is critical for the public and/or decision makers to understand the effects of a given action. DOE has continuously failed to gather data about how existing contamination is affecting key ecological receptors. The lack of such information fundamentally undermines the required cumulative effects analysis since the effects of past and present actions on ecological receptors and processes are unknown.

Question # 14 - What data has DOE gathered on the effects to salmonids of contamination caused by existing plumes in the Columbia River? Has DOE taken any samples of salmonids to test for concentrations of all known contaminants? If not, why not?

Question # 15- Does DOE acknowledge that MTCA requires these types of studies to assess the effects of existing contamination on ecological receptors? Please explain.

Response

DOE believes the analysis contained in the EIS is consistent with the requirements of NEPA. Ecological impacts are presented in Volume I Section 5.5 and Volume II Appendix I.

The human exposure scenarios described in Volume II Appendix F consider direct and indirect use of the Columbia River water and biota (e.g., swimming, consumption of fish). For those radiological and non-radiological contaminants that will reach the Columbia River bioaccumulation of contaminants and resulting impacts to non-human biota are also expected to be small. See Volume I Sections 5.5 and 5.11, and Volume II Appendix F and Appendix I.

The EPA Columbia River Basin Fish Contaminants Survey 1996-1998 (EPA 2002) was a study of organic, metal, and radionuclide concentrations in 208 fish tissue samples collected from 24 locations on the Columbia, Snake, Yakima, Clearwater, Klickitat, Deschutes, Willamette and other rivers that drain the Columbia River Basin. Locations included the Hanford Reach of the Columbia River, artificial ponds on the Hanford Site, and the upper Snake River. Cancer risks were estimated for consumption of fish that were contaminated with radionuclides. These risks were small relative to the estimated risks associated with radiation from naturally occurring background sources, to which everyone is exposed. The levels of radionuclides in fish tissue from the Hanford Reach of the Columbia River and the ponds on the Hanford Site were similar to levels in fish from the Snake River. These estimates of risks were not combined with the potential risks from other chemicals, such as PCBs (Aroclors and dioxin-like PCBs), chlorinated dioxins and furans, and a limited number of pesticides. The potential cancer risks from consuming fish collected from Hanford Reach and the artificial ponds on the Hanford Site were similar to cancer risks in fish collected from

the upper Snake River. EPA reported that the Yakima River and the Hanford Reach of the Columbia River tended to have higher concentrations of organic chemicals than other study sites. EPA also reported that the chemicals and or chemical classes that contributed the most to cancer risk for most of the resident fish were PCBs (Aroclors and dioxin-like PCBs), chlorinated dioxins and furans, and a limited number of pesticides. For most of the anadromous fish, the chemicals that contributed the most to cancer risk were PCBs (Aroclors and dioxin-like PCBs), chlorinated dioxins and furans, and arsenic. These chemicals occur in the Columbia River as a result of agricultural and industrial operations (pulp and paper plants, for example) and are very unlikely to be of Hanford origin. These chemicals would not exist in wastes proposed for future disposal at Hanford, or, if initially present, would be treated to reduce their mobility and toxicity to meet applicable standards prior to disposal.

DOE maintains an extensive radiological and hazardous chemical monitoring network for groundwater, surface water, air, and biological resources. The results of these analyses are summarized in the annual Hanford Site Environmental Report (Poston et al. 2002) and the annual Groundwater Monitoring Report (Hartman et al. 2002).

Comments

L-0039/013

This draft EIS does not conduct the required ecosystems analysis. Washington State's Model Toxics Control Act (MTCA) details a specific road map for ecological evaluations. It is unfortunate DOE chose not to use this road map. The Columbia River is vitally important to the region. The analyses performed should include a detailed analysis of the impacts in and to the river and its ecosystem, as well as to the other interconnected ecosystems.

Response

DOE believes the analysis contained in the EIS is consistent with the requirements of NEPA. Ecological impacts are presented in Volume I Section 5.5 and Volume II Appendix I.

Volume II Appendix I provides information about potential impacts to terrestrial and aquatic ecological resources that may result from implementation of HSW EIS alternatives. Potential impacts to terrestrial resources were evaluated in the near term (i.e., during waste management operations and under current conditions). Potential impacts would result primarily from surface disturbances associated with excavation and disposal activities. Potential impacts to Columbia River riparian and aquatic resources could occur in the long term, i.e., up to 10,000 years following the conclusion of waste management operations. These would be primarily the result of the eventual migration of radionuclides and other hazardous chemicals through the vadose zone to groundwater and on to the Columbia River.

Comments

L-0050/014

Page 5.88, the last paragraph summarizes the ecological risk assessment completed for the aquatic and riparian biota for the Columbia River. WDFW considers this risk assessment invalid since there was no coordination between DOE and the Hanford Natural Resource Trustees, and that it failed to take into account other nonradionuclide chemicals. CERCLA, Section 104(b)(2) requires DOE to coordinate with the Natural Resource Trustees regarding ecological risk assessment, as part of CERCLA.

Response

DOE believes the analysis contained in the EIS is consistent with the requirements of NEPA. Ecological impacts are presented in Volume I Section 5.5 and Volume II Appendix I.

The CERCLA risk assessment process, which includes other ecological risk assessment requirements, is implemented pursuant to the TPA in conjunction with the State of Washington and EPA.

Comments

L-0050/012

Page 5.75, fourth paragraph, states "removal of sagebrush within the new HSW disposal facility near the PUREX Plant would likely have a small impact on populations of these species within the Columbia Basin." The first paragraph, same page states, "ground disturbance during the nesting season…could destroy eggs and young and temporarily displace nesting individuals into other areas of the Hanford site." If an adequate cumulative impacts analysis on shrub steppe habitat and species on Central Hanford was completed, it would help answer the following question: What other areas of "suitable habitat" would birds utilize?

TSE-0029/003

In addition, [the DEIS states that] if the mature sage-steppe habitat needs to be removed to construct a solid waste management facility, we [DOE] could mitigate the habitat loss by revegetating. I have been doing a lot of work on native vegetation. They've got a lot of work to do if they think they're going to revegetate shrub-steppe. And protecting other parcels of land, or protecting other parcels. In other words, we [DOE] are going to screw this place, but we're going to be real nice, we're not going to screw that place, you know. If that's mitigation, it just doesn't fly.

Response

Major areas of the Hanford Site have been set aside for natural resource preservation. See Volume I Section 4.2. Over 300 square miles of the Hanford Site have been included in the Hanford Reach National Monument. Many other portions of the Hanford Site will also remain undisturbed.

Comments

L-0044/023

Vol. I, Sec. 4.6; Sec. 5.5;Sec. 5.5.6, p. 5.81: The description of the affected environment and impacts to ecological resources ignores the fragmentation of habitat that results in direct impacts to species diversity and does not address ecological relationships that may be affected by the alternatives. Habitat is judged to be unsuitable or unaffected based in large part on effects of the 24 Command Fire of 2000, with no attempt to integrate additional impacts from proposed actions in this EIS. Analyses of the impacts of proposed actions are not complete for certain species (e.g., loggerhead shrike) and environmental impacts (e.g., adverse noise-based impacts). The discussion of new to science species does not give sufficient information to determine what impacts the proposed alternatives might have. Ecology does not view the evaluation of ecological impacts to plants and animals to be sufficient because of these deficiencies. An eco-system analysis should be added to the Final EIS.

The State Department of Fish and Wildlife will provide specific comments regarding these issues. Ecology will consider deficiencies to be addressed when the eco-system analysis is completed satisfactorily and comments from F&WL are addressed in the Final EIS.

L-0050/010

Page 5.75, first paragraph. According to our WDFW PHS Database, additional wildlife potentially impacted by disturbance to the 200 East and 200 West LLBG's includes loggerhead shrikes, burrowing owl and Swainson's hawk. The nesting season for ground nesting birds should be extended from March through August (Vander Hagen, personal communication).

L-0050/013

Page 5.76, last paragraph, impacts to elk from the Area C construction. Construction activity would be most disruptive to the elk herd during the wintertime, a period when the elk are most commonly found near the pit. WDFW recommends that blasting and other heavy construction activity take place outside the period of December through March. Construction activity may displace elk onto roads and other undesirable locations such as private property. If water or mineral (salt) are exposed as a result of expansion of the borrow pit it

could also attract elk to the site. WDFW recommends actions to prevent the exposure of water or salt that would attract elk. If exposure does occur, the site should be protected from elk. Lastly, DOE should establish escape routes for elk in the event one falls into the pit.

L-0050/016

Page I.21-24. [This] section states, "disturbance of the needle-and-thread grass/cheatgrass community would be mitigated via the setting aside and protection of an element occurrence of the sagebrush/needle and thread grass community located away from Area C. Ample element occurrences of this community type (i.e. sagebrush/needle and thread grass community types) currently exists elsewhere in the 600 Area of the Hanford Site to satisfy this size constraint." According to the "Final Hanford Comprehensive Land-Use Plan Environmental Impact Assessment", much of these "element occurrences" are located in habitat designated as Conservation (mining). What measures will DOE prescribe in the interim to protect these habitats from future development, so they will have ecological value for mitigation options?

L-0050/017

WDFW remains concerned over the lack of commitment from DOE for mitigation for the continued loss of shrub steppe habitat in the Low Level Burial Ground's (LLBGs) in the 200 Area West and East, due to the efforts of vegetation control (herbicide application) as indicated in section 5.5.1 and Appendix I. We disagree with the following statement, "…continued use of these LLBGs, or new disturbance of the extant plant communities within them via expansion of the disposal area, would not result in the loss of any State of Washington designated priority habitat." The WDFW mitigation policy goal is to maintain the functions and values of fish and wildlife habitat in the state, and we strive to protect the productive capacity and opportunities reasonably expected of a site in the future. In the long-term, WDFW shall seek a net gain in productive capacity of habitat through restoration, creation and enhancement. The EIS tends to rely excessively on the effects of the 24 Command Fire as a means to devalue habitat. Regardless of the condition of the shrub steppe habitat, it is still considered a WDFW priority habitat, and therefore compensatory mitigation is recommended, whether it is for total loss of habitat in the 200 Area or continued loss due to herbicide application.

Response

DOE manages cultural, archeological, ecological, biological, and natural resources under a series of area and resource management and mitigation plans. See Volume I Section 5.18.8 for a list of these plans. Resource and resource impacts are monitored routinely and as unique events and activities occur.

Major areas of the Hanford Site have been set aside for natural resource preservation. See Volume I Section 4.2. Over 300 square miles of the Hanford Site have been included in the Hanford Reach National Monument. Many other portions of the Hanford Site will also remain undisturbed.

Potential mitigation measures for addressing ecological impacts are described in Volume I Section 5.18.3, the Biological Resources Management Plan (BRMaP, DOE-RL 2001), and the Biological Resources Mitigation Strategy (BRMiS, DOE-RL 2003).

Comments

THR-0003/002

Also the elk populations. There is a real large elk population around Hanford Reach area that we aren't able to manage right now because of the questions around contamination of the elk. And I wonder if that meat is huntable at this point, is [the meat] edible, ... Fish and Wildlife could allow hunting in that area to manage the herds so that we wouldn't have to damage to the ecosystem.

Response

This meat is edible as indicated by the Hanford Site Environmental Report for Calendar Year 2001 (Poston et al. 2002) and elk are currently hunted offsite. Hunting is precluded on the Fitzner/Eberhardt Arid Lands

Ecological

Ecology (ALE) Reserve for security and ecological protection reasons.

Comments

L-0044/030

Appendix I (Re: Comment # 63) Although the pocket mouse was not evaluated, 57 terrestrial and aquatic receptors were assessed with the ECEM (Table I.8). However, EHQs are presented for only a handful of ecological receptors.

Response

The results presented in the Ecological Risk Analysis represent the single receptor of those evaluated that was at maximum risk for each alternative group and time period. See Volume II Appendix I Section I.3.4.

Comments

L-0050/008

Page 4.75, Biodiversity, second paragraph. This section contradicts the discussion in Appendix I. WDFW agrees with the comment on page 4.75, "many places on the Hanford site are relatively free of non native species and are extensive enough to retain characteristic populations of shrub-steppe plants and animals that are absent or scarce in other areas. Because of its location, the site provides important connectivity with other undeveloped portions of the ecoregion." While page I.26, first paragraph, last sentence, states, "the 24 Command Fire removed most of the adjacent shrub-steppe, interrupting the connectivity of these areas with other undeveloped portions of the ecoregion."

Response

Both statements are accurate and need to be read in context with surrounding paragraphs.

Comments

E-0026/005

The EIS states it uses the CRCIA yet it is not in alignment with the minimum requirements of CRCIA.

E-0047/028

The EIS states it uses the CRCIA (Columbia River Comprehensive Impact Assessment) requirements. It does not, as it is not in alignment with the minimum requirements of CRCIA.

L-0016/016

Very few species spend their entire earthly career 'endangered': therefore the fact that there are no (known) endangered species on the site is not to say there will never be, or that the witch's brew stored there won't threaten now-common species.

L-0044/125

SAC in the HSW-EIS ignores terrestrial ecological pathways. This pathway is important for the burial grounds and needs to be incorporated.

Response

The ecological impact analysis contained in the HSW EIS is consistent with the requirements of NEPA. It is also consistent with the methods, characteristics, and controls associated with a composite analysis as described by the Columbia River Comprehensive Impact Assessment (CRCIA) team. The analysis modules included in the System Assessment Capability (SAC) parallel those identified by CRCIA and were developed through work group meetings that included regulator and stakeholder participation. Several key modules were adopted directly from the CRCIA including the module used to calculate human health impacts (the HUMAN code) and the module used to calculate impacts to ecological species (the ECEM code).

Ecological

Volume II Appendix I provides information about potential impacts to terrestrial and aquatic ecological resources that may result from implementation of HSW EIS alternatives. Potential impacts to terrestrial resources were evaluated in the near term (i.e., during waste management operations and under current conditions). Potential impacts would result primarily from surface disturbances associated with excavation and disposal activities. Potential impacts to Columbia River riparian and aquatic resources could occur in the long term, i.e., up to 10,000 years following the conclusion of waste management operations. These would be primarily the result of the eventual migration of radionuclides and other hazardous chemicals through the vadose zone to groundwater and on to the Columbia River. Biological and ecological resources (vegetation, wildlife, aquatic ecology, and threatened and endangered species) potentially impacted by the proposed actions are assessed in Volume II Appendix I and summarized in Volume I Section 4.6. Wildlife and ecological resource impacts are summarized in Volume I Section 5.5.

DOE manages Hanford biological and ecological resources in accordance with the Biological Resource Management Plan (BRMaP; DOE-RL 2001) and the Biological Resource Mitigation Strategy (BRMiS; DOE-RL 2003). See Volume I Section 5.18.8 for discussion of resource management and impact mitigation plans.

Comments

E-0043/034, EM-0217/034, EM-0218/034, L-0056/034, LM-0017/034, LM-0018/034

The EIS has not assessed short and long-term ecological impacts. It should analyze and discuss impact on fish, including salmon, as well as for other endangered species and the rest of the ecosystem. Merely listing the species present at the site is not analysis. Further, the conditions have not been updated since the Hanford fire. Also, Shrub- steppe habitat is an ecological resource. Since all present alternatives presents an ecological resource impact to Shrub-steppe habitat, additional alternatives that do not present this impact, or lower this impact, should be quantitatively analyzed.

E-0047/030

Fails to assess and disclose the short and long-term ecological impacts. Complete ecosystems must be assessed not just a few selected species.

E-0055/027

We are unable to find an ecological evaluation in the HSW EIS. Washington State's Model Toxics Control Act (MTCA) details a specific road map for ecological evaluations. This road map should have been used and was not. The EIS does not assess the sustainability of the ecosystems, nor of endangered species. The technical model used (SAC) does not include a terrestrial ecosystem impact component. Those modules were not included in the development of SAC, and as result, no evaluation is possible using SAC. The HSW EIS does not analyze the impacts from all burial grounds, or the impacts of contaminated groundwater on the hyporheic and riparian zones of the Columbia River, nor the impacts in the river on Salmon and other species.

E-0049/008, L-0048/008

The revised EIS should include an analysis of the threat to endangered and threatened species in the area and fully evaluate the ecological impacts of the actions proposed by DOE.

L-0050/001

The Revised Draft EIS fails to adequately evaluate the impacts of proposed actions on state and federally listed species, candidate species, and species new to science. The state has 18 listed species of concern associated with shrub steppe habitat that are not evaluated within this document.

L-0050/002

This document continues to devalue the importance of The Nature Conservancy's (TNC) biological inventory on the Hanford site. DOE's response to our original comments on the first draft of the EIS indicates that TNC's work is cited extensively within the EIS. Yet, the EIS fails to take this information further. [What] are the impacts from actions proposed going to be on these species? As quoted in TNC's document "From a conservation standpoint, the Hanford Site is a vital and perhaps the single most important link in preserving

and sustaining the diverse plants and animals of the Columbia Basin Ecoregion" (TNC 1998). The National Biological Division of the US Geological Survey lists native shrub and grassland steppe in Washington and Oregon as Endangered because of an 85-98% decline (Noss et al. 1995).

L-0050/018

WDFW disagrees with the statement "although new construction would result in temporary habitat loss in these areas, its loss would likely have no long-term effect on ecoregional biodiversity" (I.26). The cumulative impacts section within this EIS largely omits a thorough analysis of continued shrub steppe fragmentation in the Hanford area. The breakup of formerly contiguous habitats can have detrimental effects on species occurrence and population dynamics. Extensive surveys in Washington suggest that sage sparrows are most likely to occur in blocks of shrub-steppe>2,470 acres (Vander Hagen, personal communication). As remnant habitat becomes smaller and more fragmented, it is under greater influence of the surrounding landscape and more susceptible to external influences, be they predators, nest parasites, and potential competitors, or the wind-blown seeds of exotic species (Weins et al. 1985).

Response

The ecological impact analysis contained in the HSW EIS is consistent with the requirements of NEPA. It is also consistent with the methods, characteristics, and controls associated with a composite analysis as described by the Columbia River Comprehensive Impact Assessment (CRCIA) team. The analysis modules included in the System Assessment Capability (SAC) parallel those identified by CRCIA and were developed through work group meetings that included regulator and stakeholder participation. Several key modules were adopted directly from the CRCIA including the module used to calculate human health impacts (the HUMAN code) and the module used to calculate impacts to ecological species (the ECEM code).

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DOE manages Hanford biological and ecological resources in accordance with the Biological Resource Management Plan (BRMaP; DOE-RL 2001) and the Biological Resource Mitigation Strategy (BRMiS; DOE-RL 2003). See Volume I Section 5.18.8 for discussion of resource management and impact mitigation plans.

Potential mitigation measures for addressing ecological impacts are described in Volume I Section 5.18.3, the Biological Resources Management Plan (BRMaP, DOE-RL 2001), and the Biological Resources Mitigation Strategy (BRMiS, DOE-RL 2003).

No plants or mammals on the federal list of threatened and endangered wildlife and plants (50 CFR 17) are known to occur on the Hanford Site. However, the bald eagle and two species of fish (steelhead and spring-run chinook salmon), currently found on the federal list of threatened and endangered species, are present on the Hanford Site, or in the Hanford Reach of the Columbia River, on a regular basis. Surveys of the 200 East and 200 West Areas (Sackschewsky 2002) and Area C (Sackschewsky 2003) revealed no federal or state threatened or endangered species (see Volume II Appendix I). Federally listed threatened, endangered, candidate species (50 CFR 17), and species of concern (http://www.wa.gov/wdfw/wlm/diversty/soc/adv_search.htm) and threatened and endangered species listed by Washington State (Washington Natural Heritage Program 2002) identified on the Hanford Site are shown in

Volume I Table 4.12. Several candidate species of plants and animals are under consideration for formal listing by the federal government and Washington State. See Volume I Section 4.6.4 and Volume II Appendix I.

Comments

L-0050/015

Page I.20, first paragraph. This section states the absence of immature sagebrush in Area C, is indicative of shrub steppe "not currently recovering", therefore replacement habitat is not indicated. WDFW disagrees with this assumption. The absence of immature sagebrush does not imply non-recovery. Many things like a high preponderance of exotic annual grasses and forbs are a much stronger indication of a non-recovering habitat. A better indicator of recovering would be the presence of a diverse perennial native grasses, forbs and shrub community adapted to the site (Benson, personal communication).

Response

The discussion in the revised draft indicates: "this habitat would be subject to mitigation via avoidance and impact minimization" in the following sentence.

Comments

L-0050/009

Page 4.74, Table 4.15. Birds of Conservation Concern should also include [both the] sage thrasher and grasshopper sparrow (USFWS 2002). Additionally, an analysis of population trends using the Breeding Bird Survey (BBS) identified 8 shrub-steppe associated species that are declining in the interior Columbia River Basin (including Brewer's sparrow, lark sparrow, loggerhead shrike, and western meadowlark). (Saab and Rich, 1997).

Response

Surveys were also conducted in Spring 2003. Results of these surveys are presented in Volume II Appendix I.